

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2004 (06.05.2004)

PCT

(10) International Publication Number
WO 2004/036979 A2

(51) International Patent Classification⁷:

A01H

(21) International Application Number:

PCT/US2003/034011

(22) International Filing Date: 23 October 2003 (23.10.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/412,649 23 October 2002 (23.10.2002) US

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(81) Designated States (national): AE, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TI, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

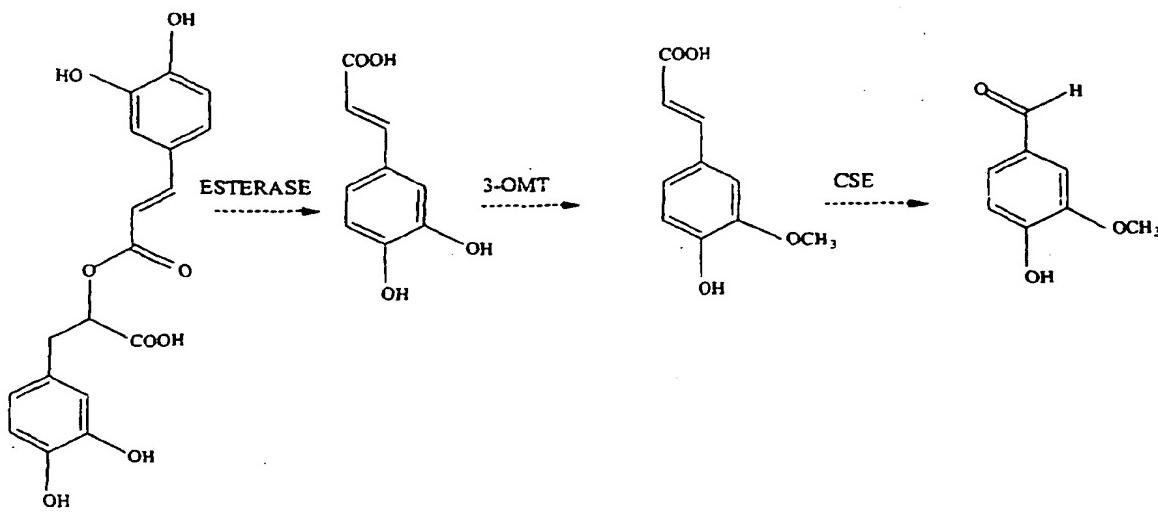
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW). Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM). European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR). OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: PRODUCTION OF VANILLIN IN MICROBIAL CELLS



Rosmarinic acid

Caffeic acid

Ferulic acid

Vanillin

WO 2004/036979 A2

(57) Abstract: Transgenic microorganisms that produce vanillin when provided with caffeic acid or an esterified or other derivative thereof are disclosed. The organisms are transformed with expressible nucleic acid sequences encoding (1) a 3-O-methyltransferase, preferably from a plant source, which converts caffeic acid to ferulic acid and (2) either a eukaryotic (preferably plant) non-oxidative chain-shortening enzyme or a bacterial CoA ligase and enoyl-CoA hydratase/lyase enzymatic system, either of which converts ferulic acid to vanillin. Methods of making vanillin in the transgenic microorganisms are also disclosed.



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